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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS

In re Application of

Amit Sarkhel et al

SERIAL NO: 09/772,278

EXAMINER: SIKYIN, IP

FILED: January 26, 2001 :

GROUP: 1742

FOR: LEAD FREE, HIGH TIN TERNARY SOLDER ALLOY OF TIN, SILVER
AND BISMUTH

REPLY BRIEF FOR APPELLANT

Commissioner for Patents
United States Patent and Trademark Office
P. O. Box 1450
Alexandria, VA 22313-1450

SIR:

All necessary fees in connection with this Reply Brief should be
deducted from Deposit Account No. 01-1944.

This reply brief is in response to the Examiners Answer paper No.
020904 dated February 12, 2004.

Applicant has stated in paragraph 2 of the Appeal Brief that there are no
related appeals and interferences. Accordingly, there are none which will be directly
affected by or have a bearing on the decision in the pending appeal.

In the Examiners Answer a statement was made on page 7, paragraph
(11), entitled "Response To Argument" which reads as follow:

--"Appellants' argument as set forth in paragraph bridging pages 6 - 7 of the
instant brief is noted. But, col. 4, lines 41 - 50 of Vianco are directed to a Bi-

Sn binary alloy. Appellants' attention is directed to col. 4, lines 51 - 57 that up to 7 wt.% Bi is allowed with Sn-Bi-Ag system to form an eutectic composition." --

The above statement of the Examiner is directed to a specific paragraph in the cited primary reference Vianco which was not previously referred to by the Examiner during the prosecution. The interpretation by the Examiner of the referenced paragraph in Vianco is technically incorrect and is in error. Attached hereto is a declaration under 37 CFR 1.132 executed by Dr. Amit Sarkhel, one of the inventors and the named applicant of this application, addressing this point and explaining why the Examiner's interpretation of this paragraph in Vianco is technically inaccurate and erroneous.

The arguments of the Examiner as presented in the Examiners Answer and inferentially in the Final rejection all rely upon the interpretation of Vianco as set forth in the Examiner's Answer and is apparently the underlying basis for the final rejection of the claims.

As set forth in paragraph 3.1 of the attached declaration "The objective of Vianco is to form a lead free solder alloy composed of a binary eutectic alloy of tin and silver with a bismuth addition forming what is known to those skilled in the art as a "pseudo binary eutectic". Simply stated, Vianco wants to retain the benefits of a binary eutectic alloy of tin and silver with a reduced melting point by adding thereto a little bismuth but not enough to convert the binary eutectic alloy into a ternary eutectic composition. This is discussed by Vianco throughout the description. In fact the Abstract itself makes this very clear. It is also consistent with col. 4 lines 51-57 of Vianco". Vianco is not directed to a ternary eutectic composition of Sn-Bi-Ag as

alleged by the Examiner nor does Vianco teach a method for using a ternary solder composition of Si-Ag-Bi. This is a major point of disagreement with the Examiner and goes to the heart of the Final rejection. Instead Vianco, as explained above, wants to retain a binary eutectic alloy of tin and silver with a reduced melting point by adding thereto a little bismuth creating "a pseudo binary eutectic" i.e. the addition of bismuth should be limited so as not to convert the binary eutectic alloy into a ternary eutectic composition. To this end Vianco expressly teaches throughout the patent specification not to exceed 5wt% Bi. The meaning of a pseudo binary eutectic to those skilled in the art is not in issue on this appeal and is well documented in the literature.

The claims of the subject application are method claims not composition claims yet the Examiner insists on treating the claims as composition claims and insists that Vianco be interpreted for purposes of the Final rejection as teaching a ternary solder composition of Si-Ag-Bi as is taught by applicant despite the fact that the subject claims on appeal are method claims and that Vianco does not teach any method of using a ternary solder composition. All of the arguments of the Examiner rely entirely on the last recited composition in Table I of Vianco and what is being taught by the presence of this last composition in Table I. Since applicants' claims are method claims it is essential that this issue be directly addressed. If the last composition in Table I is being disclosed to emphasize what is unacceptable to Vianco and outside the formation of the desired pseudo binary eutectic then Vianco is not a teaching of a ternary alloy composition of Si-Ag-Bi as alleged by the Examiner for use in practicing the method claimed in the subject application. Vianco is clearly limited to the practice of a pseudo binary eutectic solder composition and it therefore cannot be

obvious under 35USC 103 when combined with other cited references to practice a method which is dependent upon use of a ternary alloy composition which Vianco deems unacceptable notwithstanding the fact that the alloy composition falls within the scope of the ternary composition of claims 9, 13 and 14. The claims in the subject appeal are not composition claims nor should they be treated as equivalent to composition claims and unless an issue of novelty exists the teaching of a rejected composition does not make the method of use obvious.

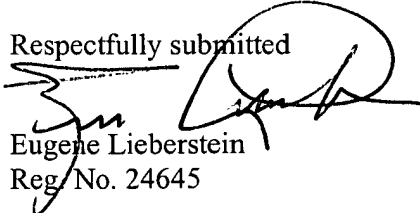
The Examiner has raised the issue of the grouping of claims and has stated that an explanation of the claim differences is not an argument as to why the claims are separately patentable. To the contrary the Examiner has not distinguished the rejection of the claims based upon the differences between the claims and the differences support why they are separately patentable. Claim 10 for example requires the bismuth addition to fall within a limited range of 10-15% in the practice of the method. This minimum requirement of bismuth for use in the practice of the method is so contrary to the methodology taught by Vianco that merely pointing this out is sufficient to support why it is separately patentable. Applicant also clearly points out why claim 14 is separately patentable.

As regards the rejection based upon Double Patenting applicant has stated their willingness to file a Terminal Disclaimer to overcome this rejection and should not be required to do so and pay a fee without some indication that the application will then become allowable at least as to some claims.

The Examiner has clearly failed to substantiate a prima facie rejection of claims 9, 10, 13 and 14 under 35 USC 103(a). Accordingly, Applicant respectfully

solicits the Board of Patent Appeals to reverse the final rejection of claims 9, 10, 13 and 14 under 35 USC 103(a).

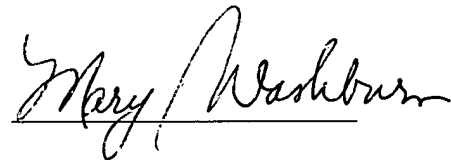
Respectfully submitted


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MAILING CERTIFICATE

I hereby certify that this correspondence is being deposited with the U.S. Postal Service as first class mail in an envelope addressed: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on April 9, 2004.



Date: April 9, 2004